

ABSTRACT

A baseball bat is described having of an elongated cylindrical handle portion for gripping, a cylindrical barrel portion for striking and a tapered cylindrical mid-section connecting the handle portion and the barrel portion, wherein at least the barrel portion is tubular and is constructed solely of a polymer composite material with a three-dimensional fiber reinforcement architecture resulting in improved durability versus conventional polymer composite bats, without any sacrifice in playing performance. Also disclosed are polymer composite baseball bats where the polymer composite material includes between 85% and 100% fiberglass reinforcement fibers, and/or where the central cavity is filled with a damping material such as polymeric foam or a low-density granular material, and/or where the bats are constructed of multiple layers of intertwined tubular braid forms using a precision molding process.